



TITLE AND FULL NAME: Prof. Detlef Lohse  
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LINK TO WEBPAGE: <http://pof.tnw.utwente.nl>

TITLE OF PRESENTATION: Bubble puzzles

#### ABSTRACT OF PRESENTATION

Physics of Fluids is a discipline of the 19th century but it also a challenge for the 21st century. Both statements the long tradition as well as the challenge for the future also hold for the physics of bubbles. In this talk I will show several examples for this, including sonoluminescence, the sound of snapping shrimp, cavitation, nucleation, ink-jet printing, ultrasonic cleaning, immersion lithography, medical applications of bubbles, and impact events on water and soft sand. In particular, I will show how the fundamental knowledge on this subject led to major advancements in several industrial problems in areas with billions of Euros annual turnover.

#### BIOGRAPHICAL NOTE

Detlef Lohse studied physics at the Universities of Kiel & Bonn (Germany), and got his PhD at Univ. of Marburg (1992). He then joined Univ. of Chicago as postdoc. After his habilitation (Marburg, 1997), in 1998 he became Chair at Univ. of Twente in the Netherlands and built up the Physics of Fluids group. Since 2015 he is also Member of the Max Planck Society and of the Max-Planck Institute in Göttingen and since 2017 Honorary Professor at Tsinghua Univ., Beijing.

Lohse's present research interests include turbulence and multiphase flow, micro- and nanofluidics (bubbles, drops, inkjet printing, wetting), and granular & biomedical flow. He does both fundamental and more applied science and combines experimental, theoretical, and numerical methods.

Lohse is Editor of J. Fluid Mech. and Ann. Rev. Fluid Mech. (among others journals) and serves as Member at Large of the Executive Board of DFD. He is Member of the (American) National Academy of Engineering (2017), of the Dutch Academy of Sciences (KNAW, 2005), the German Academy of Sciences (Leopoldina, 2002) and Fellow of APS (2002). He won various scientific prizes, among which the Spinoza Prize (NWO, 2005), the Simon Stevin Meester Prize (STW, 2009), the Physica Prize of the Dutch Physics Society (2011), the AkzoNobel Science Award (2012), two European Research Council Advanced Grants (2010 & 2017), the George K. Batchelor Prize (IUTAM, 2012), the APS Fluid Dynamics Prize (2017), the Balzan Prize (2018), and the Max Planck Medal (2019). In 2010, he got knighted to become "Ridder in de Orde van de Nederlandse Leeuw".